

# ORION

CREW EXPLORATION VEHICLE

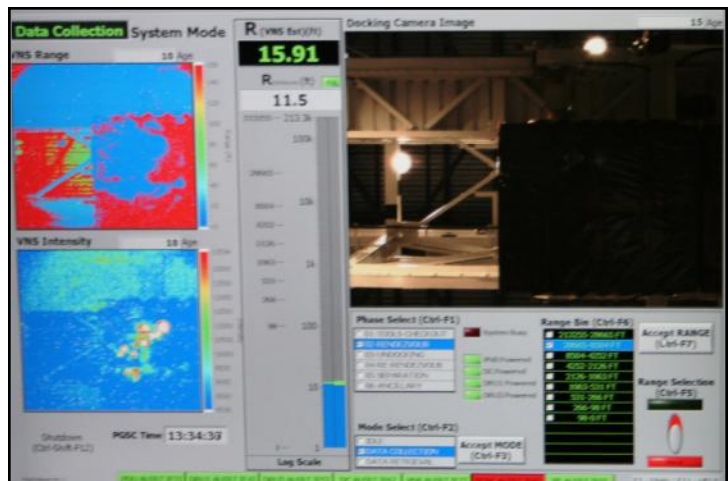
## WEEKLY ACCOMPLISHMENTS



08.13.10



**The Orion RelNav Risk Mitigation (STORM) hardware was installed in the payload bay of the Space Shuttle Endeavour.** Installation began with the Sensor Enclosure Assembly (SEA), a 52-pound box about the size of a microwave oven (shown left). The SEA was mounted in place in front of the shuttle's airlock, alongside the existing Trajectory Control System. The location of the docking camera offers an accurate snapshot of how the system would handle on the Orion capsule, and provide precise visual cues to the crew. Next, the 82-pound Avionics Enclosure Assembly, which provides power distribution, data recording and memory for the camera and navigation system was mounted on the port side of the payload bay. Electrical connections were completed and the functional testing verified the STORM hardware is ready to fly on STS-134 in February 2011.



The SSA display with data and imagery from the sensors

Running the STORM Software Application (SSA) on the orbiter flight deck



*Hatch Panel Assembly*



*Bird cage tool*



**The Orion Ground Test Article team at the Michoud Assembly Facility has completed assembly and installation of the barrel and tunnel test cover and two forward bulkhead test covers.** Work continues on the harness installation and hatch panel assembly. In preparation for the proof pressure test set-up, the routing of the 28 harnesses and the channelization of the 584 channels required for proof test is complete. Progress continues on the bird cage tool, which is used to install the crew module structure necessary for the subsequent installation of the thermal protection system. (Photo top right). The crew module is ready to roll out to pressure testing facility the week of August 16, pending weather conditions

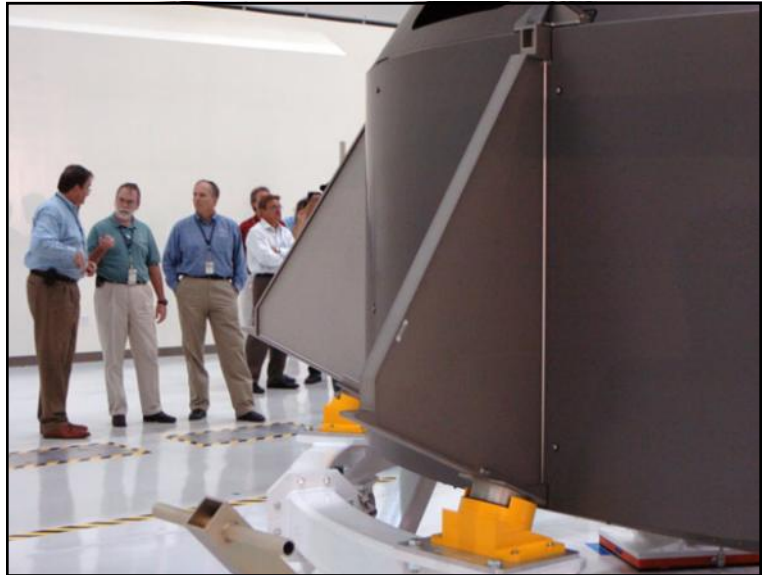


**An evaluation session was conducted to review the current Crew Module (CM) Uprighting System (CMUS) design.**

The goal was to determine methods and designs for maintaining an egress path through forward bay should the crew have to exit the crew module through the docking tunnel. Oceaneering led the session with participation from the Crew Office, Human Factors, Landing and Recovery System, and Crew Systems. Two fully inflated CMUS uprighting bags tethered to a full-scale forward bay mockup were used in the demonstration. Participants were able to evaluate methods for how to detach and/or deflate the uprighting bags in order to achieve a viable egress path.



**Constellation Program Manager Dale Thomas and Deputy Charlie Stegemoeller (shown right with Lockheed Martin manager Richard Harris) toured the Orion Operations and Checkout (O&C) Facility during their recent visit to recognize employees at the Kennedy Space Center. The O&C team conducted a crew module lift station demonstration of the crew module mock-up being lifted and installed onto the lift station's holding blocks (Photo below right). The crew module holding dolly on its air bearing pallet system was also demonstrated to show how the crew module and service module will be maneuvered on the Orion production floor.**



### **Communications and Public Outreach**

**Orion's recent successful main engine test was featured on the big screen in New York City's Times Square (Photo left).**

